REMARKS

Claims 1-11 are pending in the subject application prior to entry of this Amendment. By the Amendment herewith, Applicant clarifies these claims to, for example, improve upon the wording and grammar, and include short form preambles. The claims also are amended to more closely conform with US patent practice. For example, "characterized in that" wording is deleted.

It respectfully asserted that no new matter is introduced into the application as a result of the foregoing changes. For example, support for the amendments of claims 1, 6 and 12 relating to coarse and fine scaling is found in Fig. 1 and on page 4, lines 6 to 9 of the specification. Further support for the amendment of claim 6 is found in Fig. 2a, which shows that the apparatus includes a scaling unit.

New claim 12 also is added, as supported by, for example, the last paragraph of the specification.

Accordingly, upon entry of this Amendment, claims 1-12 are pending. Of those claims, claims 1, 6 and 12 are independent.

In the outstanding non-final Office Action, claims 1-11 are rejected under 35 USC Section 112, second paragraph, as being indefinite.

Applicant respectfully traverses the above rejection. However, in view of the afore-referenced clarifications to the claims, reconsideration and withdrawal of this rejection is requested.

Claims 1-6 are rejected under 35 USC Section 101 as being directed to non-statutory subject matter.

Applicant respectfully traverses the above rejection and asserts that the claims are directed to proper statutory classes. For example, the method of

independent claim 1 refers to the use of a processor. Claim 6 is directed to an apparatus. Accordingly, reconsideration and withdrawal of this rejection is requested.

Regarding the rejections based upon art, claims 1, 2, 5, 6 and 7 are rejected under 35 USC Section 102(e) as being anticipated by Mutoh (US 2004/0057634). Dependent claim 2 is rejected under 35 USC Section 103(a) as being unpatentable over Mutoh in view of Yamaguchi (US Patent 6,424,753). Dependent claim 4 is rejected under 35 USC Section 103(a) as being unpatentable over Mutoh in view of Kamon (US Patent 4,827,433). Dependent claim 8 is rejected under 35 USC Section 103(a) as being unpatentable over Mutoh in view of Kim (US 2002/0060676). Dependent claim 9 is rejected under 35 USC Section 103(a) as being unpatentable over Mutoh in view of DiNicola et al. (US Patent 6,394,524). Claim 10 is rejected under 35 USC Section 103(a) as being unpatentable over Mutoh in view of Najand (US Patent 7,203,379). Lastly, claim 11 is rejected under 35 USC Section 103(a) as being unpatentable over Mutoh in view of Yang et al. (US 2002/0025084).

The foregoing rejections are respectfully disagreed with, and are traversed below.

Independent claim 1, as amended, recites:

1. A method comprising, with use of a processor:
determining an original digital matrix image to be scaled,

selecting a scaling ratio R by setting integers X, Y, and Z, wherein the scaling ratio R corresponds approximately to an equation Y/(Z*X) and wherein Y < Z,

coarse scaling the original matrix by using a ratio 1/X to create pixels of an intermediate matrix, and

fine scaling the intermediate matrix by using a ratio Y/Z to create a final matrix image.

Independent claim 6, as amended, recites:

6. An apparatus comprising:
memory areas configured to store an original digital matrix image to be scaled, for data to be processed, and configured to store an output image matrix, a central unit (CPU) configured to process the original matrix image in two stages by a selected scaling ratio R, in the first stage the original matrix is coarse scaled by using a ratio 1/X to create pixels of the intermediate matrix, and in the second stage each pixel of the intermediate matrix is fine scaled by using a ratio Y/Z, and wherein an equation Y/(Z*X) corresponds approximately to a scaling ratio R and wherein Y < Z.

Independent claim 12 recites:

12. A computer-readable memory having software stored thereon and the software when executed by a central unit (CPU) performs:
determining an original digital matrix image to be scaled,

selecting a scaling ratio R by setting integers X, Y, and Z, wherein the scaling ratio R corresponds approximately to an equation Y/(Z*X) and wherein Y < Z,

coarse scaling the original matrix by using a ratio 1/X to create a pixels of an intermediate matrix, and

fine scaling the intermediate matrix by using a ratio Y/Z to create a final image matrix.

In the Action, the Examiner contends that all of Applicant's independent claims are anticipated by Mutoh. Applicant respectfully disagrees.

Mutoh discloses an image processing apparatus and method for changing the size of image data of an original image by scaling. It is possible to perform the scaling in two stages. Mutoh particularly discloses a switch

(step s71 of Fig. 17) deciding whether to perform scaling in one or two stages. The scaling is performed in one stage, if a given target size-change rate is an integer and in two stages, if the given target size-change rate includes a fraction. The problem that Mutoh tries to solve is to reduce total processing time of the image. Due to the nature of the problem to be solved, Mutoh uses a fine scaler first (a high-order processing way) and a coarse scaler second (see paragraph [153] of Mutoh).

In contrast to Mutoh, according to embodiments of Applicant's invention, scaling is performed always in two stages, even when the first scaler is 1/1. In addition, a problem to be solved by embodiments of Applicant's invention is to minimize a required amount of memory despite high-quality downscaling. This problem is addressed by Applicant by, for example, using a coarse scaler first and a fine scaler second, according to embodiments.

Accordingly, differences between Mutoh and Applicant's claimed invention as recited in independent claims 1, 6 and 12 relate, for example, to scaling. That is, Mutoh uses two scaling stages only when the total scaling ration in not an integer, whereas according to Applicant's independent claims, scaling is always done in two stages. In addition, Mutoh and Applicant's independent claims use scalers in a different order, and the problems to be solved are different. For example, Applicant's embodiments set forth in the independent claims employ scalers in the recited order to, for example, ensure a minimized required amount of memory, as well as a better image quality.

It should also be mentioned, that Mutoh does not disclose changing the numeric size of the image, as in embodiments of Applicant's invention. Instead, Mutoh refers to image information value, as shown in the examples of Figs. 1, 4, 5 and 6, wherein the scaling process depends on the image type.

Accordingly, for at least the foregoing reasons, Applicant's independent claims 1, 6 and 12 are patentable in view of Mutoh. Similarly, all dependent claims also are patentable at least in view of their dependency from an allowable independent claim. For completion, it is noted that that addition of the secondary references cited in the Action in the rejection of Applicant's dependent claims do not cure the shortcoming of Mutoh and do not disclose or suggest Applicant's claims. Nor is there any reason to modify and/or combine any of the cited references in an attempt to arrive at Applicant's claims.

Additionally, with respect to dependent claim 3, this claims allows selection of X as large as possible to, for example, minimize the required amount of memory. Mutoh, instead, selects the Z1 to be just the integer part of the given target size-change rate and does not mention the benefit of selecting the Z1 as large as possible. Nor does Mutoh even try to minimize the amount of memory required.

Also, with respect to claim 5, this claims allows the selection of the integers X, Y, and Z in such a way that 1/X is approximately Y/Z, to, for example, optimize the quality of an image. Mutoh does not mention selecting ratios in any particular way due to some reason. In contrast, according to Mutoh, after selecting the integer Z1, the ratio of ZZ/ Z1 is that which remains.

All issues having been addressed, the subject application is believed to be in condition for immediate allowance. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections. A Notice of Allowance is therefore earnestly solicited.

Should the Examiner have any questions, a call to the undersigned would be appreciated.

Respectfully submitted:

Christine Wilkes Beninati — Sept 1, 2009

Christine Wilkes Beninati — Date

Reg. No.: 37,967
Customer No.: 29683
HARRINGTON & SMITH, PC
4 Research Drive
Shelton, CT 06484-6212
Telephone: (203) 925-9400
Facsimile: (203) 944-0245

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

9-1-09 — Date

Name of Person Making Deposit